



# Air Fresheners and Air Quality Factsheet for the United States

**Just as outdoor air pollution can be harmful, indoor air can also contain harmful pollutants. Sources of indoor pollutants include fragranced consumer products such as air fresheners. Some chemicals used in these products can pose health risks, even in very small amounts. In this factsheet, we discuss potential hazards of air fresheners and what can be done to reduce our exposure.**

## Background

Exposure to air fresheners has been associated with health problems such as migraine headaches, respiratory difficulties, and asthma attacks. To reduce pollutant exposures and potential adverse effects, air fresheners can be removed from indoor environments. However, little is known about how much this can improve air quality and over what time frame. Using workplace environments, our research analysed and compared chemical concentrations in restrooms that used air fresheners, that discontinued the use of air fresheners, and that did not use air fresheners.

## What are the possible hazards?

- Air fresheners can contain hundreds of chemicals.
- Some chemicals used in air fresheners are classified as potentially hazardous.
- Also, some chemicals, such as limonene, can generate air toxics, such as formaldehyde.

## Why are the hazards hidden—aren't all ingredients listed on the label?

- Air fresheners are not required to disclose all ingredients, and typically do not.
- Fewer than 10% of all ingredients are generally disclosed on product labels, safety data sheets or elsewhere.
- Our analysis of air fresheners found common chemicals were ethanol, limonene, alpha-pinene, acetaldehyde and acetone.



*Image: Examples of air fresheners*

## Are “green” or “natural” air fresheners any better?

- Not necessarily.
- Emissions of potentially hazardous chemicals from “green” air fresheners were similar to those from regular varieties.
- Claims of “green”, “natural”, or “organic” are unregulated and typically unsubstantiated.

## How can air fresheners affect our health?

- Surveys of the US population reveal that exposure to air fresheners is associated with adverse health effects.
- When exposed to air fresheners, 20% of the US population report health problems such as migraine headaches, asthma attacks, dizziness, and breathing difficulties.
- Also, 41% of asthmatics report adverse health effects, such as asthma attacks, after exposure to air fresheners.

## How can air fresheners pose access and equity risks?

- In surveys, 18% of the US population are unable or reluctant to use toilets in a public place because of the presence of an air freshener.
- 59% of the US population would prefer to fly on an aeroplane without scented air pumped in the cabin, and 56% would prefer to stay in a hotel without fragranced air.
- 20% of the US population report that if they enter a business and smell an air freshener, they want to leave as quickly as possible.

## What can be done to reduce risks and improve indoor air quality?

- Switching off air fresheners can reduce concentrations of fragrance chemicals by up to 96% within two weeks.
- Use ventilation instead of air fresheners.
- Remove sources of odours rather than masking them with chemicals.
- Remove or disconnect air fresheners.

## References

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## Credits

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Image: Example of air freshener use

## About the CAUL Hub

The Clean Air and Urban Landscapes Hub is part of the Australian Government’s National Environmental Science Program. The remit of the CAUL Hub is to undertake “Research to support environmental quality in our urban areas”. This includes research on air quality, urban greening, liveability and biodiversity, with a focus on practical implementation of research findings, public engagement and Indigenous Australian participation. The CAUL Hub is a consortium of four universities: the University of Melbourne, RMIT University, the University of Western Australia and the University of Wollongong.